

ABSTRACT OF THE DISCLOSURE

Chiral separations can be enhanced through the use of polymerized dipeptide-surfactant or oligopeptide-surfactant chiral micelles. Because polymerized micelles eliminate much of the complex dynamic behavior associated with conventional micelles, polymerized chiral micelles have stronger chiral recognition properties than do otherwise-identical, "conventional" or non-polymerized chiral micelles. Recovery of chiral ligands from polymerized chiral micelles is often easier, as the chiral ligands may typically be recovered by simple extraction with an appropriate organic solvent. By contrast, recovering the solute from a conventional, non-polymerized micellar medium by extraction with an organic solvent frequently results in the formation of troublesome emulsion systems. Polymerized chiral micelle systems are therefore beneficial in both preparative-scale and process-scale separations. Polymerized chiral micelles have no critical micelle concentration, allowing lower concentrations to be used in micellar electrokinetic capillary chromatography, which in turn reduces the otherwise deleterious heat that can be generated. Many polymerized dipeptide-surfactant or oligopeptide-surfactant chiral micelles have superior separation properties as compared to polymerized amino acid-surfactant chiral micelles.

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